

Montana Department of Natural Resources and Conservation  
Water Resources Division  
Water Rights Bureau

**ENVIRONMENTAL ASSESSMENT**  
**For Routine Actions with Limited Environmental Impact**

**Part I. Proposed Action Description**

1. *Applicant/Contact name and address:* LandTech Enterprises LLC  
P.O. Box 1560  
Sidney, MT 59270
2. *Type of action:* Application for Beneficial Water Use Permit No. 40S 30064320
3. *Water source name:* Groundwater
4. *Location affected by project:* SWNESW Section 26 T28N R58E, Roosevelt County
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*  
This project is to supplement an existing ground water certificate, 40S 5745800, by increasing the volume of groundwater for Industrial purpose, for oil field supply. The Application is for an additional 0 GPM and 7.9 AF of water annually from January 1 through December 31. The point of diversion and the place of use are located in the SWNESW Section 26 T28N R58E, Roosevelt County. The additional volume will allow for a combined appropriation of 20.0 AF which would allow them to meet increased demands due to the expansion of oilfield activity.

The DNRC shall issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

6. *Agencies consulted during preparation of the Environmental Assessment:*  
(include agencies with overlapping jurisdiction)

Montana Department of Environmental Quality – Web site  
National Wetlands Inventory  
Montana Natural Heritage Program

**Part II. Environmental Review**

1. **Environmental Impact Checklist:**

**PHYSICAL ENVIRONMENT**

## **WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - *Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

*Determination:* The Department showed that drawdown from the LandTech 101 well will propagate horizontally to the locations where the Hell Creek Formation and Fox Hills Formation subcrop beneath the Missouri River alluvium in the vicinity of Brockton, Montana and this is the location that depletion will manifest in the Missouri River. The DFWP has a water reservation on this portion of the Missouri River of 4508 CFS to maintain instream flows.

The rate of diversion will not have a significant impact on the groundwater or the Missouri River. The Department finds that existing water users with diversions on the Missouri River may reasonably exercise their water rights should the potential maximum depletion result from the proposed appropriation. It is unlikely that this groundwater appropriation would significantly impact adjacent surface water flows.

**Water quality** - *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

*Determination:* The Missouri River is listed on the 2012 Montana 303d list as fully supporting drinking water and agriculture. The probable sources for the impairment are water temperature and flow regime alterations.

This groundwater diversion will not have a significant or long term impact water quality.

**Groundwater** - *Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

*Determination:* The well has been in use for industrial purpose under certificate 40S 5745800 since April 1, 1985. A 72 hour aquifer test was not conducted since this is a Fox Hills well and drilling an observation well is not economically feasible. This well has been in service for over 25 years. The Applicant provided 5 years of records showing the number of barrels sold. The Department reviewed the 5 years of records and queried Montana Bureau of Mines and Geology Groundwater Information Center for aquifer test data, additional aquifer tests and yield tests in the Fox Hills- lower Hell Creek aquifer system and summarized the data. The Department predicted the maximum drawdown expected in other wells within the zone of influence using the Theis (1935) solution with the following parameters  $T = 229 \text{ ft}^2/\text{day}$ , and  $S = 1.7 \times 10^{-4}$ . After five years of constant pumping at the rate of 4.9 gpm, drawdown in excess of 1 foot extends 16,000 feet from LandTech well 101. There are zero water rights in the Fox-Hills-lower Hell Creek aquifer that are predicted to experience drawdown greater than 1 foot.

**DIVERSION WORKS** - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

*Determination:* Water will be diverted from the ground via a 2 inch well. The well is 1380 feet deep and has been in use since April 1, 1985. The casing in the wells has a liner. The well is equipped with a 5 hp pump, Murphy head pressure gauge Model – OPLHC2D. Water is pumped from the well through a 2” pipe 7 foot long discharge line to 1000-bbl fresh water above ground storage tank. There is one truck loading station equipped with a backflow check. This well is the same well that has been in use since 1985 and this application is for an increase in volume only, there will be no negative impacts from the means of diversion since there will be no additional construction.

#### **UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

***Endangered and threatened species*** - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”

*Determination:* According to the Montana Natural Heritage Program website, The Bureau of Land Management, (BLM), lists the Le Conte’s Sparrow, Nelson’s Sparrow, Sedge Wren, Bobolink and Pearl Dace as sensitive. The Whooping Crane and the Least Tern are listed by BLM as Special Status. The US Forest Service, (USFS) and US Fish & Wildlife Service (USFWS) both list the Whooping Crane and Least Tern as Endangered. Both the US Forest Service and the US Fish & Wildlife Service list the Whooping Crane and the Pallid Sturgeon as Endangered. There are no federally-listed plant species within the Project area.

##### ***Le Conte’s Sparrow***

Montana is at the periphery of the Le Conte's Sparrow's range and breeding records from extreme northeastern Montana show this species is present. Habitat appears to be quite limited in Montana, indicated by the very few documented breeding occurrences. The areas where Le Conte's Sparrows have bred are wet meadows within peatlands, often with a strong sedge (*Carex*) component.

##### ***Nelson’s Sparrow***

There is very little information about the habitat for Nelson’s Sparrow in Montana, however, it is assumed that the habitat is similar to that used in other portions of the species' range. This species prefers freshwater wetlands with dense, emergent vegetation or damp areas with dense grasses (Bownan 1904, Murray 1969, Stewart 1975, Berkey et al. 1993). Nests usually are built in stands of grasses with litter that is persistent from year to year (Greenlaw and Rising 1994) slightly above the ground in damp areas among emergent vegetation (Murray 1969, Stewart 1975).

##### ***Sedge Wren***

No specific information exists on the Sedge Wren in Montana, but appropriate wetland habitat is present in the areas of the state in which the species has been recorded. It is adapted to foraging in shrubby grasslands.

***Bobolink***

Nests are built in tall grass and mixed-grass prairies. They prefer "old" hay fields with high grass-to-legume ratios

***Pearl Dace***

Pearl dace prefer small cool streams, either clear or turbid. They spawn in clear water at depths of 1 to 2 feet over a gravel or sand bottom (Brown 1971).

***Whooping Crane***

The Whooping Crane has been observed in the marsh habitat present at Medicine Lake National Wildlife Refuge and Red Rock Lakes National Wildlife Refuge. Birds have been observed in other areas of the state include grain and stubble fields as well as wet meadows, wet prairie habitat, and freshwater marshes that are usually shallow and broad with safe roosting sites and nearby foraging opportunities (Lenard et al. 2003).

***Least Tern***

Least Terns nest on unvegetated sand-pebble beaches and islands of large reservoirs and rivers in eastern Montana. Wide, open river channels, and lake and pothole shorelines provide the preferred characteristics for nesting Least Terns. One of the most limiting factors to nesting site selection is vegetational encroachment, also the location of nesting sites in relation to surrounding water levels. Nests are often inundated because water levels are kept unnaturally high throughout the breeding season (and high winds can cause nests to be flooded) or nesting sites are not available (due to encroaching vegetation or high water levels causing beaches to be under water during part of, or possibly throughout, the nesting season) (MPPRC 1994).

This well has been in place since 1985 and there will be no additional construction, since this application is for additional volume only. The location of the existing well is located just off of Hwy 2, in a primarily agricultural and industrial area, which is not a preferred habitat of any of the listed species. This appropriation will have no effect on the habitat or species above.

**Wetlands** - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

*Determination:* No known wetlands exist in the project area.

**Ponds** - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

*Determination:* Not applicable.

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

*Determination:* The well and operation is already established and in use since 1985. Water diverted for this project will not impact soils.

The Project will have no significant impacts on soils in the project area.

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

*Determination:* The well is already established and in use since 1985. The spread of noxious weeds will not increase. There should be no deterioration of air quality as a result of this appropriation.

The Applicant will be responsible for monitoring and controlling the establishment or spread of noxious weeds.

**AIR QUALITY** - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

*Determination:* There will be no deterioration of air quality as a result of this appropriation.

**HISTORICAL AND ARCHEOLOGICAL SITES** - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

*Determination:* The Project will likely have no impact on historical, cultural or archeological sites.

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

*Determination:* No additional impacts on other environmental resources were identified.

## **HUMAN ENVIRONMENT**

**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

*Determination:* There are no known local environmental plans or goals in this area.

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

*Determination:* The project is located in a rural area that has historically been used for agricultural purposes and will not have an impact on recreation or wilderness activities

**HUMAN HEALTH** - *Assess whether the proposed project impacts on human health.*

*Determination:* This project will have no impact on human health.

**PRIVATE PROPERTY** - Assess whether there is any government regulatory impacts on private property rights.

Yes\_\_\_ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

*Determination:* There are no additional government regulatory impacts on private property rights associated with this application.

**OTHER HUMAN ENVIRONMENTAL ISSUES** - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

*Impacts on:*

- (a) Cultural uniqueness and diversity? No Significant Impact
- (b) Local and state tax base and tax revenues? No Significant Impact
- (c) Existing land uses? No Significant Impact
- (d) Quantity and distribution of employment? No Significant Impact
- (e) Distribution and density of population and housing? No Significant Impact
- (f) Demands for government services? No Significant Impact
- (g) Industrial and commercial activity? No Significant Impact
- (h) Utilities? No Significant Impact
- (i) Transportation? No Significant Impact
- (j) Safety? No Significant Impact
- (k) Other appropriate social and economic circumstances? No Significant Impact

**2. *Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts: This assessment does not indicate possible secondary impacts on the physical environment and/or the local human population.

Cumulative Impacts: This assessment does not indicate possible cumulative impacts on the physical environment and/or the local human population.

**3. *Describe any mitigation/stipulation measures:*** N/A

**4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** An alternative analysis of the project identified a no action alternative to the

increase the volume for industrial purposes. This alternative would not have any direct impacts that are typically associated with construction and operation of Industrial purpose. The no-action alternative would not allow the Applicant to meet the purpose of and need for the project.

### *PART III. Conclusion*

1. ***Preferred Alternative:*** Issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

### **2** *Comments and Responses*

3. ***Finding:***  
*Based on the significance criteria evaluated in this EA, is an EIS required?* NO

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:*

No significant impacts have been identified; therefore an EIS is not necessary.

*Name of person(s) responsible for preparation of EA:*

*Name:* Heather Harris

*Title:* Water Resource Specialist

*Date:* November 4, 2013

Berkey, G., R. Crawford, S. Galipeau, D. Johnson, D. Lambeth, and R. Kreil. 1993. A review of wildlife management practices in North Dakota: effects on nongame bird populations and habitats. Report submitted to Region 6. U.S. Fish and Wildlife Service, Denver, CO. 51 pp.

Bownan, C.W. 1904. Nelson's Sharp-tailed Sparrow in North Dakota. *Auk* 21:385-386.  
Murray, B.G., Jr. 1969. A comparative study of Le Conte's and Sharp-tailed sparrows. *Auk* 86:199-231.

Brown, C.J.D. 1971. *Fishes of Montana*. Big Sky Books, Bozeman, MT. 207 pp

Greenlaw, J. S. 1993. Behavioral and morphological diversification in sharp-tailed sparrows (*AMMODRAMUS CAUDACUTUS*) of the Atlantic coast. *Auk* 110:286-303.

Lenard, S., J. Carlson, J. Ellis, C. Jones, and C. Tilly. 2003. *P. D. Skaar's Montana Bird Distribution*, 6th Edition. Montana Audubon: Helena, MT, 144 pp

Montana Piping Plover Recovery Committee. 1994. 1993 Surveys for Piping Plover (*CHARADRIUS MELODUS*) and Least Tern (*STERNA ANTILLARUM*) in Montana. Unpublished report. 116 pp. plus appendices.

Stewart, R.E. 1975. *Breeding birds of North Dakota*. Tri-College Center for Environmental Studies, Fargo, North Dakota. 295 pp.